

WE CLAIM:

- 1 1. A process for the preparation of propylene glycol
2 from propylene oxide, which process comprises:
3 (a) contacting propylene oxide with carbon dioxide in
4 the presence of catalyst and in the substantial
5 absence of water to obtain a first reaction mixture
6 comprising propylene carbonate; and,
7 (b) contacting at least part of the first reaction
8 mixture with water in the presence of catalyst to
9 obtain a second reaction mixture comprising propylene
10 glycol and carbon dioxide,
11 in which process a substantial amount of propylene
12 oxide is present in step (b).
- 1 2. The process of claim 1, in which the molar ratio
2 of propylene oxide to propylene carbonate in step (b)
3 is from 0.01:1 to 1:1.
- 1 3. The process of claim 1, in which the propylene
2 oxide present in the feed of step (a) is
3 substantially fully converted to propylene carbonate,
4 and which process further comprises adding additional
5 propylene oxide in step (b).
- 1 4. The process of claim 1, in which from 60% to 99%
2 of the propylene oxide present in the feed of
3 step (a) is converted in step (a) to propylene
4 carbonate.
- 1 5. The process of claim 1, in which propylene glycol
2 is separated from the second reaction mixture.
- 3 6. The process of claim 1, in which process step (a)
4 is carried out with a homogeneous catalyst and
5 step (b) is carried out with a heterogeneous
6 catalyst.
- 1 7. The process of claim 6, in which process the
2 homogeneous catalyst for process step (a) is also
3 present in step (b).

1 8. The process of claim 6, in which the propylene
2 oxide present in the feed of step (a) is
3 substantially fully converted to propylene carbonate,
4 and which process further comprises adding additional
5 propylene oxide in step (b).

1 9. The process of claim 6, in which from 60% to 99%
2 of the propylene oxide present in the feed of
3 step (a) is converted in step (a) to propylene
4 carbonate.

1 10. The process of claim 6, in which propylene glycol
2 is separated from the second reaction mixture.